

# THE BANG THEORY: THE BREAKING AND (SORT OF) FIXING OF EVERYDAY OBJECTS

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How might ill-designed or semi-broken objects be analyzed as to their potential to stimulate the development of new, personal and unique ways to interact with technology? Stemming from observations on faulty objects, this paper discusses the importance of an extended understanding of the aesthetics of use, misuse and individuality in the emerging theorizations of interaction design for an increasingly electronically mediated society.



*Fig 1. Game Boy, 2010, Luiza Prado, Mixed media. Some rights reserved.*



*Fig 2. Remote and Hairdryer, 2010, Luiza Prado, Mixed media. Some rights reserved.*

## Introduction

“As ever more of our everyday social and cultural experiences are mediated by electronic products, designers need to develop ways of exploring how this electronic mediation might enrich people’s everyday lives.” [1]

The complex nature of human relationships with electronic devices is an extensive and rich topic for research. Its relevance to the design practice is unquestionable and discussions surrounding the topic have exhibited all sorts of positions and perspectives from authors, designers and theorists. The full range of potentialities surrounding the use of electronic objects, however, is yet to be thoroughly explored; as technology infiltrates itself into diverse, broader areas of our lives, new structures and perspectives for the design of those objects become necessary. Ubiquitous technology does need not be equivalent to invisible technology: visibility and transparency may very well be valuable strategies in the emerging theorizations of product and interaction design.

Starting from the development of an experimental series of objects aimed at bringing the inner workings behind the surface of familiar electronic devices to the foreground, the paper discusses the relevance of a deeper understanding of the aesthetics of use, misuse and individuality of an object. The questioning of the role of both designer and user contextualizes these observations.

## Improvisation and Negotiation

The project began with a few simple observations on how malfunctions in everyday electronic items changed not only one’s behavior towards these objects, but the rituals associated with their use. By shedding light on the invisible mechanisms that make up the core of an electronic device, malfunctions tend to bring out previously unnoticed potentialities in an object, opening up new dimensions as to the rituals and behaviors associated with it. Leah Buechley, in her article “Questioning Invisibility”, on invisibility in ubiquitous computing and its consequences, writes:

“First, the errors are engaging – they surprise us and force us to notice technology we might have otherwise ignored. Second, they introduce legibility to technology – they reveal interesting information about how it works.” [2]

The negotiation process with a malfunctioning object can provide useful insights into the relationships we develop with electronic devices. The flaw demands one’s time and attention in order to be fixed, changed or at least ignored. Learning to deal with those flaws leads to the development of singular rituals and behaviors associated solely with the object in question, effectively transforming it from a mass-produced good into a unique device by means of its use.

The first item to be observed during the development of the project was an old digital camera. The camera presented an odd fault which would make its display either exhibit all sorts of glitches or be completely black. With time and use, however, the owner of the device discovered that for the display to work properly it only needed a few rather vigorous slaps. After becoming acquainted with this specific malfunction in the object by using the device multiple times, one’s inclination was to automatically slap the camera as soon as it was turned on, incorporating a new ritual into the set of routine actions related to the use of that specific device.

Another item of interest in these first observations was a cheap blow dryer from a generic brand. Every blow dryer has a switch that automatically turns the device off when its internal circuits reach a certain temperature, in order to prevent overheating. This one, however, had a malfunction that automatically turned the device off every few minutes when in use. At first this behavior is quite puzzling, but eventually – also, after repeated use – one learns that in order to make the blow dryer work again it is necessary to puff air into the device until a small clicking sound is heard – the switch going off again. Eventually puffing air into the blow dryer every few minutes while using it becomes a ritual, a preventive behavior against that unique malfunction.

Exploring the complexity of these relationships was the first step in the development of the project; as a natural extension of these first observations and reflections, a call for contributions was posted in a handful of social media websites and art-related communities. The subject proved to be quite popular, as almost everyone in the targeted social circles had a similar account to share. The resulting contributions exhibited a wide variety of inventive solutions and behaviors associated to the problems of each device; one of the most striking affinities between the stories, however, was the attachment most people showed to these objects, despite their malfunctions. This attachment, although clearly dependent on many factors – socio-cultural background and income among them – was deeply related to the significance the person applied to the object, as well as its history. Many contributors commented that they felt that the malfunction made their object special and unique, something that only they knew how to use.

## The Objects

Continuing the development of the project, the submitted contributions were used as a base to create a small series of experimental malfunctioning devices. First in the series was a faulty Game Boy, a portable video game console originally released by Nintendo in the early 90s. The object was based on the following contribution:

“I once had a video game console that would only work when flipped upside down.” [3]

The Game Boy was thus modified using a simple circuit bending solution: a tilt sensor was connected to the potentiometer responsible for controlling the screen’s contrast settings. This caused that specific part of the internal circuit to remain open when the device was placed right side up, so that the screen would appear blank while all other functions remained unaffected. When the game was positioned upside down, however, the tilt sensor caused the circuit to close, thus allowing the player to see the images on the screen (*fig. 1*).

The second object was a TV remote (*fig. 2*). The device was adapted to fit the following contribution:

“My remote never worked unless I squeezed and twisted it really hard.” [4]

The device was modified by placing small pieces of adhesive tape over its internal button contacts, making it necessary to twist the remote and press each button very hard in order for it to work. The previously mentioned hair dryer rounded up the series as the third object (*fig. 2*). All of the objects were painted white in order to strip them of their brand names and individual attributes, instead presenting them as generic depictions of familiar devices.

With the objects ready, the next step was to observe people's reactions to their malfunctions. A few, informal tests were conducted in order to understand and recognize different perspectives and attitudes towards the devices. Since the project's aim was not that of a scientific study, the tests weren't conducted with a scientific method in mind. There were no initial conjectures to be proven: instead, the goal was to solely observe the effects and affects of an artistic experiment.

Right from the first test it became clear that most people tended to have a pattern of behavior towards malfunctioning electronic objects: twisting, plugging and unplugging, banging and shaking seemed to be part of an acquired gestural vocabulary towards glitchy items. After the first few unsuccessful interactions, however, most people tended to start a more careful exploration of the device. This second phase usually led to interesting results, with each person developing their own, individual and performative responses towards different malfunctions. Some people tried to adapt themselves to the situation by developing new ways of using the device; others tried to correct the faults with other, external solutions, like using other objects as aids and tools. It is interesting to note that, regardless of the problems, very few people stopped using the devices altogether; most tended to be amused and challenged by the objects and thus tried their best to work out a way to use them in spite of their defects.

### The Aesthetics of Misuse

"Concept art is theorized as a perceptual process in which the image (concept) is experienced as an immediate presence – an art that presents to the viewer/listener an experience to be completed through the very act of perception." [5]

Building upon LaBelle's views on concept art, the design of electronic objects can be theorized analogously; the perception of the experience of use needs to be considered an integral and essential part of the identity of an object. Under these terms, the object would be an incomplete entity in and by itself: only through use the rituals and behaviors associated with it would complete the picture. LaBelle goes on to quote Nam June Paik as stating:

"In a nomadic, post-industrial time we are more experience-oriented than possession-oriented." [6]

Experience thus becomes a material in itself, as much as all tangible components that make up the physical representation of the electronic object. This set of intangible attributes, albeit abstract, is decisive in the definition of a device's identity.

During the development of the project one of the most significant questions raised by all the experiments and contributions concerned the reasons that made most people keep using malfunctioning objects, aside from the conspicuous financial issues. Electronic items with proven malfunctions can be returned to their manufacturers or sellers with relative ease; there is, admittedly, a very strong influence of psychological and socio-cultural matters that can explain the reasons for the decision to keep such an object. As a result, a multitude of answers are plausible, ranging from the object's history to its functionality; nevertheless, what strikes as a particularly interesting in the research is the usual connection of this decision to live with the necessary rituals and behaviors as part of the development of a relationship with that object, almost to the point of emotional attachment to the very flaw that was problematic in the first place. What was initially considered a malfunction becomes, then, a defining trait in an object, asserting its individual identity in a sea of mass-produced goods. An aesthetics of misuse thus emerges, as an essential transformation of the individual's interaction with the object.

Reflection on imperfect objects is not a new subject in design research. Let it be noted, however, that electronic objects represent an entirely different category of objects; the rich field of possible iterations and interactions, as well as the behaviors associated with them, cause the experiences associated with this kind of object to be of a completely different nature.

## Conclusion

“The most difficult challenges for designers of electronic objects now lie [...] in the realms of metaphysics, poetry, and aesthetics, [...] the post-optimal object could provide new experiences of everyday life, new poetic dimensions.” [7]

By stimulating and nurturing individualized responses and uses, explorations on the misuse electronic object can open up a new range of possibilities beyond the realms of efficiency and results. Design takes a new role, not as an instrument to the imposition of values, meanings and hierarchies; instead, by making the individualized input an essential part of the construction of the identity of an object, the figure of the user can be elevated to a new level: that of an actor. Whereas the user merely abides to an aesthetics of use already defined by the designer as the embodiment of an ideological system and is, ultimately, subdued to the machine, the actor embodies a new perspective on interaction design, where machine and human share the same hierarchical space. Dunne writes:

“According to Virilio (1995): ‘Interactive user-friendliness’... is just a metaphor for the subtle enslavement of the human being to ‘intelligent’ machines; a programmed symbiosis of man and computer in which assistance and the much trumpeted ‘dialogue between man and the machine’ scarcely conceal the premises: ... the total, unavowed disqualification of the human in favor of the definitive instrumental conditioning of the individual.’

This enslavement is not, strictly speaking, to machines, nor to the people who build and own them, but to the conceptual models, values and systems of thought the machines embody.” [8]

The actor has an active role in the questioning of this enslavement to pre-fabricated behaviors. By subverting the notion of a generic travesty of the user, the actor has the power to open up a new range of poetic and metaphysical possibilities as to human relationships with electronic objects. Growth towards a new notion of technology is, however, of prime importance, as its visibility plays a central part in the shifting of roles from user to actor. By completely obliterating visibility into the technological workings behind the surface of an electronic device a rich source of new experiences and perspectives towards the object is lost. Buechley writes:

“Invisibility is a narrow design goal. It’s not necessarily a bad one, but it doesn’t capture the full range of technological or creative possibilities.” [9]

“Why should ubicomp – or any other computing discipline, for that matter – consign itself to the ignored, invisible realm?” [10]

Marcel Duchamp considered his readymades as a response to purely retinal art, creating additional dimensions to the artistic object not yet explored at that time; taking cue from this idea, malfunctions

have the potential to respond to the perception of product design as a discipline merely focused on results, usability and user–friendliness, particularly in an era where electronic devices tend to mediate more and more areas of our lives that are less dependent on these factors.

“The electronic object does not have to fulfill our expectations; it can surprise and provoke.” [11]

That doesn’t mean, surely, that dysfunctional design should be the main goal for the development of meaningful experiences in and for itself; it is, however, a path to be explored and observed as useful and playful critique. Questioning the role of the designer as merely responsible for

“creating semiotic skins for incomprehensible technologies” [12]

is essential to the development of design practice itself.

“a ‘space’ of chains and layers of meaning between the object and the viewer, continuously expanding with no fixed origin or closure.” [13]

Understanding interaction design through Roland Barthes’ definition of text might be a useful beginning.

### **References and Notes:**

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4. *Ibid.*
5. Brandon LaBelle, *Background Noise: Perspectives on Sound Art* (New York: Continuum, 2006), 68.
6. Wijers, Louwrien, “Fluxus Yesterday and Today,” special issue, ed. Johan Pijnappel, *Art&Design: Fluxus*, no. 28 (1993): 9 quoted in Brandon LaBelle, *Background Noise: Perspectives on Sound Art* (New York: Continuum, 2006), 68.
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9. Leah Buechley, “Questioning Invisibility,” in *Computer* 43, no. 4 (2010): 86.
10. *Ibid.*
11. Anthony Dunne, *Hertzian Tales: Electronic Products, Aesthetic Experience, and Critical Design* (Cambridge, MA: The MIT Press, 2008), 35.
12. Anthony Dunne, *Hertzian Tales: Electronic Products, Aesthetic Experience, and Critical Design* (Cambridge, MA: The MIT Press, 2008), 1.
13. Barthes, Roland quoted in Anthony Dunne, *Hertzian Tales: Electronic Products, Aesthetic Experience, and Critical Design* (Cambridge, MA: The MIT Press, 2008), 36.